

Patent Application

TITLE:

METHOD AND APPARATUS FOR IMAGING EARTH FORMATION

The invention concerns an apparatus for investigating the wall of a borehole filled with non-conductive mud, said apparatus comprising:

- a pad having an inside face and an outside face for pressing against the wall of the borehole;
- a set of measurement electrodes mounted on the outside face of the pad, potentials differences being measured between said measurement electrodes in order to provide measured points representative of the resistivity of the formation;
- both a source electrode and a return electrode adapted to inject current into the formation, the set of measurement electrodes being situated between the source electrode and the return electrode;

According to the invention, the set of measurement electrodes comprises two substantially horizontal rows of electrodes, said two rows being horizontally offset from each other, such that the potentials differences measured between said measurement electrodes are representative of both the vertical component and the horizontal component of the total electric field in the formation at each measured point.

The invention also proposes a method for investigating the wall of a borehole.